

REMARKS

The Official Action of May 5, 2005 has been carefully considered and reconsideration of the application as amended is respectfully requested.

Claims 1-3 drawn to a transferring pressure roll have been canceled. Claims 4 to 8 drawn to a transferring unit have been rewritten as claims 9-13 with the recording material and transferring film positively recited as elements of the claim and with “means plus function” language defining the other elements in accordance with the provisions of 35 USC 112, last paragraph.

New claims 9-23 have been added more completely to define the subject matter which Applicants regard as their invention. The recitation of “a finely roughened surface” in the claims draws support from the specification as filed in, for example, the paragraph in the specification bridging pages 3 and 4. The recitation that the hardness of the elastic material is less than 40 is supported in the specification as filed at, for example, page 5, lines 15-17. The recitations in claims 19-21 correspond with recitations in original claims 5-7. Support for the recitations in claims 14 and 18 appears in the specification as filed at page 16, lines 18-19. Support for the recitations in claims 22 and 23 appears in the specification as filed at page 24, lines 9-16.

The claims as previously on file were rejected under 35 USC 103(a) as allegedly being unpatentable over Okuda et al in view of Kawasaki or over this combination of references

further in view of Onishi et al. Applicants respectfully traverse these rejections.

The claimed invention is based in part upon Applicants' finding that the claimed transferring unit, comprising a combination of polyethylene terephthalate (PET) film as heat resistant substrate of the transferring film and an elastic material of the pressure roll having a hardness of less than HA40, is capable of press-bonding a transferable protective layer onto an ink jet-recorded image formed on a finely roughened surface with a good adhesion and without causing the entrance of bubbles or leveling of the roughened surface. This is shown by the Examples and Comparative Examples in the specification, as next discussed.

In Examples 1-3 described on pages 31-34 of the specification, laminated sheets comprising recorded material having a finely roughened surface and transferring film comprising a PET film as heat-resistant substrate were subjected to press-bonding, wherein the surface of the transfer roll was coated with a silicone rubber having a hardness of HA30 or HA40. In contrast, the press-bonding of the laminated sheets of Comparative Examples 1 and 2 described on pages 34-35 of the specification was done with pressure rolls that were coated with silicone rubber having a hardness of HA80 or HA60. (Note: the respective thicknesses of the pressure rolls of Comparative Examples 1 and 2 correspond with the respective thicknesses of the pressure rolls of Examples 1 and 3.) The Examples and Comparative Examples were evaluated for the entrance of bubbles into the protective layer, the leveling of the finely roughened surface of the recording material and the adhesion of the protective layer according to the criteria described in the specification at pages 36-38.

The results of the evaluations are provided in Table 1 on page 39 of the specification. These results show the criticality of maintaining the elastic material of the pressure roll at a hardness of HA40 or below in order to achieve optimal results in each of the recited criteria.

The claimed invention is based on the above findings and the claims as amended require **all** of the following three elements:

- (a) polyethylene terephthalate (PET) film as heat resistant substrate;
- (b) an elastic layer comprising elastic material having a hardness less than HA40; and
- (c) a recording material having a finely roughened surface with raised portions having a height of 5-20 μm and a pitch of 50-500 μm . This combination of features is not shown or suggested in the cited art, as next discussed.

The Examiner has acknowledged that the primary reference, Okuda, fails to teach the recited hardness of the elastic layer of the claimed pressure roller, but contends that one of skill in the art would have been motivated by Kawasaki to use a pressure roller of the claimed hardness in the transferring unit of Okuda for reduced smearing and superior durability. Applicants respectfully disagree and submit that it is only through hindsight, with the aid of the disclosure in the present specification, that one of skill in the art would have combined the references. While Kawasaki teach a hardness of the roller surface that is within the claimed

range, the purpose for such hardness, as described in Kawasaki, is irrelevant to the Okuda reference and the teachings thereof. As Kawasaki describes:

[0001] The invention is related to a pressure roller used in a fixing device of an electrophotography copier in which a heat roller and a pressure roller are provided, and [0003] In a fixing device using a conventional pressure roller, image deterioration: so-called “image smear” appears sometimes The inventors found that occurrence of the image smear can be suppressed by decreasing impact at entrance of leading edge of the recording medium into the fixing device by lowering resiliency of the surface of the pressure roller used in the fixing device.

In short, Kawasaki provides a pressure roller in a fixing device for use after recording by electrophotography (i.e. toner image), in which a particular problem of “image smear” can be prevented.

However, Okuda et al already provide for the preservation and protection of an ink image against smearing and the like by the provision of a protective layer atop the recorded image (see, e.g., US Patent 6,854,823 at column 1, lines 54-57: “One traditional technique to reduce ink jet image smearing and increase image abrasion resistance includes laminating a clear film over the top of a printed image after the image has been rendered onto an ink receiver.”). Moreover, in Okuda et al, the pressure roller does not impact the image on the recording medium as in Kawasaki, but rather impacts the film-forming material layer (Okuda et al at Fig.

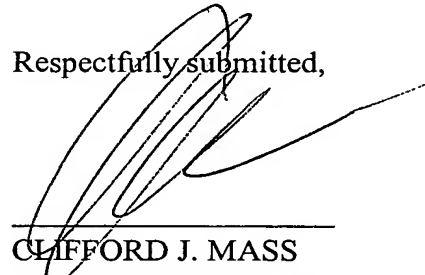
1, reference numerals 2 and 6). The Examiner has cited nothing, and there is nothing in the prior art, to show or suggest that the provision of a pressure roller having an elastic material with the recited hardness of less than HA40 would prevent impact-smearing of an ink image or otherwise provide for improved durability of an ink image in an environment wherein the pressure roller impacts a film-forming material layer that is being applied to an ink image (as opposed to impacting a toner image directly). There is *a fortiori* nothing in the prior art to show or suggest that the provision of a pressure roller with an elastic material of the claimed hardness would, when used to transfer a film to protect an image on luster paper having a finely roughened surface, help to prevent bubble entrance in the transfer film or leveling of the finely roughened surface of the luster paper.

In the absence of any motivation in the prior art to use the pressure roller of Kawasaki in the laminating device of Okuda et al, it is respectfully submitted that the references are not properly combinable and cannot set forth even a *prima facie* case of obviousness for the invention as claimed for this reason alone (see MPEP Section 706.02(j)). Moreover, there is nothing in the prior art that would show or suggest that, in a laminating device as claimed wherein the elastic material of a pressure roller impacts a film-forming material layer for transfer of a film, the hardness of the elastic material is a result-effective variable. It is respectfully submitted that the references do not set forth even a *prima facie* case of alleged obviousness for this reason as well (see MPEP Section 2144.05: a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be

characterized as obvious.) Finally, even assuming for the sake of argument that the references were properly combinable and did set forth an alleged *prima facie* case of obviousness, it is respectfully submitted that the evidence in the specification of unexpectedly advantageous results, as discussed above, would be sufficient to rebut any such alleged *prima facie* case.

In view of the above, it is respectfully submitted that the prior art rejections of record have been successfully traversed and that the application is now in allowable form. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,



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